| | | | | | | | | | | : | SEQUI | ENCE | LIST | r | | | |
|---------|------------------|------------------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|-----|
| | <1 | 10> | Yama | nouc | :hi l | Phari | na c e u | ıtica | ıl Co |)., | Ltd. | | | | | | |
| T,0620 | <1 | 20> | A no | vel | G pı | rote | n co | uple | d re | cepi | tor p | rote | in | | | | |
| T, CUID | < 1 | 30> | Y990 | 5-PC | T | | | | | | | | | | | | |
| | <1! <1! | 50> 51> | JP P 1998 | 1998 -03- | -060 12 | 245 | | | | | | | | | | | |
| | | | JP P 1999 | | | 774 | | | | | | | | | | | |
| | <16 | (0) | 26 | | | | | | | | | | | | | | |
| | < 17 | 0> 1 | Pater | ntln | Ver | . 2. | 0 | | | | | | | | | | |
| | <21 <21 | 0> : 1> 1 2> [3> F | 128 | sapi | ens | | | | | | | | | | | | |
| | <22 | 1> C 2> (| DS 1) REB1 | (112 | 5) | | | | | | | | | | | | |
| 14.j | <400 | • | aar | ara | 200 | | | | ~~~ | • | | | | | | | |
| | Met 1 | Ala | Asn | Ala | Ser 5 | เป็ | Pro | Gly | Gly | Ser 10 | Gly | Gly | Gly | gag Glu | gcg Ala 15 | gcc Ala | 48 |
| | gcc Ala | ctg Leu | ggc Gly | ctc Leu 20 | aag Lys | ctg Leu | gcc Ala | acg Thr | ctc Leu 25 | Ser | ctg Leu | ctg Leu | ctg Leu | tgc Cys 30 | Val | agc Ser | 96 |
| | cta Leu | gcg Ala | ggc Gly 35 | aac Asn | gtg Val | ctg Leu | t t c Phe | gcg Ala 40 | ctg Leu | ctg Leu | atc lle | gtg Val | cgg Arg 45 | gag Glu | cgc Arg | agc Ser | 144 |
| | ctg Leu | cac His 50 | cgc Arg | gcc Ala | ccg Pro | tac Tyr | tac Tyr 55 | ctg Leu | ctg Leu | ctc Leu | gac Asp | ctg Leu 60 | tgc Cys | ctg Leu | gcc Ala | gac Asp | 192 |
| | 888 Gly 65 | ctg Leu | cgc Arg | gcg Ala | ctc Leu | gcc Ala 70 | t gc Cys | ctc Leu | ccg Pro | gcc Ala | gtc Val 75 | atg Met | ctg Leu | gcg Ala | gcg Ala | cgg Arg 80 | 240 |
| , | cgt Arg | gcg Ala | gcg Ala | gcc Ala | gcg Ala 85 | gcg Ala | ggg Giy | gcg Ala | ccg Pro | ccg Pro 90 | ggc Gly | gcg Ala | ctg Leu | ggc Gly | tgc Cys 95 | aag Lys | 288 |
| c L | ctg _eu | ctc Leu | gcc Ala | ttc Phe 100 | ctg Leu | gcc Ala | g¢g A [a | Leu | ttc Phe 105 | tgc Cys | ttc Phe | cac His | gcc Ala | gcc Ala 110 | ttc Phe | ctg Leu | 336 |

| ctg Leu | ctg Leu | ggo Gly 115 | va i | g ggo I Gly | gt Va | c J | a c c Thr | cg Ari 120 | g 7 | lac yr | c t Le | g gc u Al | c at a II | c gc e Al 12 | a Hi | ıc ca s Hi | c cgc s Arg | 384 |
|------------------------|-------------------|-------------------|-------------|---------------------|-------------------|-----------|-------------------|------------------|------------|------------|-------------------|-------------------|--------------------|--------------------|--------------|---------------------|-----------------------|-------|
| ttc Phe | tat Tyr 130 | gca Ala | ga g Glu | g cgo i Arg | ct Le | ָׁע | gcc Ala 135 | Gly | ; t | gg | c c t Pro | g tg o Cy | c gc s Al 14 | a Al | c at a Me | g ct t Le | g gtg u Val | 432 |
| tgc Cys 145 | gcc Ala | gcc Ala | tgg Trp | gcg Ala | cti Lei 150 | , | gcg | c t g Leu | g g J A | c c l a | gcg Ala | g gc Ala 15 | a Pho | c cc e Pr | g cc o Pr | a gt o Va | g ctg I Leu 160 | 480 |
| gac Asp | ggc Gly | ggt Gly | ggc Gly | gac Asp 165 | Asg | . (| ag | ga c Asp | g A | cg la | ccg Pro 170 | Cys | gco S Ala | c ct; | g ga u Gl | g ca u Gli 17 | g cgg n Arg 5 | 528 |
| Pro | Asp | Gly | 180 | Pro | Gly | , | la | Leu | G 18 | l y 8 5 | Phe | Leu | ı Lei | ı Lei | 190 | Ala) | gtg Val | 576 |
| Val V | Val | 195 | Ala | Thr | His | L | eu | Val 200 | Ty | y r | Leu | Arg | Leu | 205 | ı Phe | Phe | atc lle | 624 |
| | Asp 210 | Arg | Arg | Lys | Met | A 2 | rg 15 | Pro | ΑI | а | Arg | Leu | Va I 220 | Pro | Ala | ı Val | Ser | 672 |
| cac g His A 225 | \sp | irp | Thr | Phe | His 230 | G | l y | Pro | GI | у | Ala | Thr 235 | Gly | Gln | Ala | Ala | Ala 240 | 720 |
| aac t Asn T | rp | ihr | Ala | Gly 245 | Phe | G | l y | Arg | GI | у | Pro 250 | Thr | Pro | Pro | Ala | Leu 255 | Val | 768 |
| ggc a Gly I | ie # | Arg | Pro 260 | Ala | Gly | Р | 0 | Gly | A r 26 | g (5 | Gly | Ala | Arg | Arg | Le u 270 | Leu | Val | 816 |
| ctg g Leu G | 1 U (| 31u 1 275 | Phe | Lys | Thr | G | U | Lys 280 | Ar | g l | Leu | Cys | Lys | Me t 285 | Phe | Tyr | Ala | 864 - |
| | nr L 90 | .eu I | Leu | Phe | Leu | 29 | 5 | Leu | Tr | р (| Gly | Pro | Tyr 300 | Val | Val | Ala | Ser | 912 |
| tac c Tyr Lo 305 | eu A | rg \ | /al | Leu | Val 310 | Αr | g | Pro | GI | y # | \la | Val 315 | Pro | GIn | Ala | Tyr | Leu 320 | 960 |
| acg go Thr A | cc t la S | cc g er \ | /al ˈ | tgg Trp I 325 | ctg Leu | a c Th | c r I | ttc Phe | gc: Ala | a C | ag In I30 | gcc Ala | ggc Gly | atc Ile | aac Asn | ccc Pro 335 | gtc Val | 1008 |

| gtg tgc ttc ctc ttc aac agg gag ctg agg gac tgc ttc agg gcc cag Val Cys Phe Leu Phe Asn Arg Glu Leu Arg Asp Cys Phe Arg Ala Gln 340 345 350 | 1056 |
|---|------|
| ttc ccc tgc tgc cag agc ccc cgg acc acc cag gcg acc cat ccc tgc Phe Pro Cys Cys Gln Ser Pro Arg Thr Thr Gln Ala Thr His Pro Cys 355 360 365 | 1104 |
| gac ctg aaa ggc att ggt tta tga Asp Leu Lys Gly lle Gly Leu 370 375 | 1128 |
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| Ala Leu Gly Leu Lys Leu Ala Thr Leu Ser Leu Leu Leu Cys Val Ser 20 25 30 | |
| Leu Ala Gly Asn Val Leu Phe Ala Leu Leu Ile Val Arg Glu Arg Ser 35 40 45 | |
| Leu His Arg Ala Pro Tyr Tyr Leu Leu Leu Asp Leu Cys Leu Ala Asp 50 60 | |
| Gly Leu Arg Ala Leu Ala Cys Leu Pro Ala Val Met Leu Ala Ala Arg 65 70 . 75 80 | |
| Arg Ala Ala Ala Ala Gly Ala Pro Pro Gly Ala Leu Gly Cys Lys 85 90 95 | |
| Leu Leu Ala Phe Leu Ala Ala Leu Phe Cys Phe His Ala Ala Phe Leu 100 105 110 | |
| Leu Leu Gly Val Gly Val Thr Arg Tyr Leu Ala IIe Ala His His Arg 115 120 125 | - |
| Phe Tyr Ala Glu Arg Leu Ala Gly Trp Pro Cys Ala Ala Met Leu Val | |
| Cys Ala Ala Trp Ala Leu Ala Leu Ala Ala Ala Phe Pro Pro Val Leu 145 150 150 155 160 | |
| Asp Gly Gly Gly Asp Asp Glu Asp Ala Pro Cys Ala Leu Glu Gln Arg 165 170 175 | |
| Pro Asp Gly Ala Pro Gly Ala Leu Gly Phe Leu Leu Leu Leu Ala Val 180 185 190 | |

| | | | | | | | | | | 4/ | 4 | | | | | |
|----------------------------------|---------------|--------------|--------------------|-----------------|----------------|----------------|------------|------------------|--------------------|------------|------------|-------------|-----------------|------------------|------------|----|
| Val | Val | G I y 195 | / Ala | Thr | · Hi s | Leu | Val 200 | | Leu | Arg | Leu | Leu 205 | | Phe | lle | |
| His | Asp 210 | Arg | Arg | Lys | Met | Arg 215 | | Ala | Årg | Leu | Val 220 | Pro | Ala | Va I | Ser | |
| His 225 | Asp | Trp | Thr | Phe | H s 230 | | Pro | Gly | Ala | Thr 235 | Gly | GIn | Ala | Ala | Ala 240 | |
| Asn | Trp | Thr | Ala | Gly 245 | Phe | Gly | Arg | Gly | Pro 250 | Thr | Pro | Pro | Ala | Leu 255 | Val | |
| Gly | lle | Arg | Pro 260 | Ala | Gly | Pro | Gly | Arg 265 | Gly | Ala | Arg | Arg | Leu 270 | Leu | Val | |
| Leu | Glu | G1 u 275 | Phe | Lys | Thr | Glu | Lys 280 | Arg | Leu | Cys | Lys | Me t 285 | Phe | Туг | Ala | |
| Val | Thr 290 | Leu | Leu | Phe | | Leu 295 | Leu | Trp | Gly | Pro | Tyr 300 | Val | Val | Ala | Ser | |
| Tyr 305 | Leu | Arg | Val | Leu | Val 310 | Arg | Pro | Gly | Ala | Val 315 | Pro | GIn | Ala | Tyr | Leu 320 | |
| Thr | Ala | Ser | Val | Trp 325 | Leu | Thr | Phe | Ala | GIn 330 | Ala | Gly | Пe | Asn | Pro 335 | Val | |
| Val | Cys | Phe | Leu 340 | Phe | Ash | Arg | Glu | Leu 345 | Arg | Asp | Cys | Phe | Arg 350 | Ala | GIn | |
| Phe | Pro | Cys 355 | Cys | GIn | Ser | | Arg 360 | Thr | Thr | Gln | | Thr 365 | His | Pro | Cys | |
| Asp | Leu 370 | Lys | Gly | lle | | Leu 375 | | | | | | | | | | |
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| <400) | | | | | | | | | | | | | | | | |
| atg (Met) | gcg a | aac Asn | tat : Tyr : | agc Ser 5 | His | gca (| gct Ala | gac Asp | aac : Asn 10 | att ile | ttg Leu | caa Gln | aat Asn | ctc Leu 15 | tcg Ser | 48 |
| cct (Pro I | cta : Leu | aca Thr | gcc Ala I 20 | ttt Phe | ctg : Leu I | aaa (Lys l | ctg Leu | act Thr 25 | tcc Ser I | ttg Leu | ggt Gly | ttc Phe | ata He 30 | ata Ile | gga Gly | 96 |

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| g t Va | c ag | c gtg r Val 35 | ۷a | g gg¢ I Gly | aa / As | c n | c t c | cte Lei 40 | ı | t c I e | t c c Ser | at | t tt e Le | g ct u Le 4 | u Va | g aas I Lys | a gat s Asp | 144 |
|-------------------|--------------------|----------------------|-------------------|-------------------|-------------------|--------|------------------|-------------------|----------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----|
| aag Lys | aco 5 Thi 50 | Leu | cat His | t aga s Arg | gc Al | a a | cct Pro 55 | Tyr | ta Ty | a c y r | t t c Phe | cti Lei | tti Lei 60 | u Ası | t ct D Lei | t tgo u Cys | tgt Cys | 192 |
| tca Ser 65 | Asp | t atc | c to Leu | aga Arg | tc Se | t r | gca Ala | att | tg Cy | gt /S | ttc Phe | cca Pro | Phe | t gtg e Val | tto Phe | aad Asr | tct Ser 80 | 240 |
| gto Val | aaa Lys | aat Asn | ggc Gly | tct Ser 85 | Th | | tgg Trp | act Thr | t a Ty | r | ggg Gly 90 | act Thr | c t g Lei | g act | t go Cys | aaa Lys 95 | | 288 |
| att lle | gcc Ala | ttt Phe | ctg Leu 100 | ggg Gly | gt Va | I | t t g Leu | tcc Ser | tg Cy 10 | S | ttc Phe | cac His | act Thr | gc t Ala | tto Phe 110 | Met | ctc Leu | 336 |
| t t c Phe | tgc Cys | atc lle 115 | agt Ser | gtc Val | acc Thr | , | lga lrg | tac Tyr 120 | t t Le | a U | gct Ala | atc lle | gcc Ala | cat His 125 | His | cgc Arg | ttc Phe | 384 |
| tat Tyr | aca Thr 130 | a a g Lys | agg Arg | ctg Leu | acc Thr | F | tt he 35 | tgg Trp | ac Th | g r | tgt Cys | ctg Leu | gct Ala 140 | ۷al | atc Ile | tgt Cys | ·atg Met | 432 |
| gtg Val 145 | tgg Trp | act Thr | ctg Leu | tct Ser | gtg Val 150 | A | cc la | atg Met | gc: | a a | ttt Phe | ccc Pro 155 | ccg Pro | gtt Val | tta Leu | gac Asp | gtg Val 160 | 480 |
| ggc Gly | act Thr | tac Tyr | tca Ser | ttc Phe 165 | att He | A | gg rg | gag Glu | ga: Gli | u i | gat Asp 170 | caa GIn | tgc Cys | acc Thr | ttc Phe | caa Gln 175 | cac His | 528 |
| cgc Arg | tcc Ser | ttc Phe | agg Arg 180 | gct Ala | aat Asn | 8 A | Sp | Ser | Let | u (| Gly | Phe | Met | ctg Leu | Leu | Leu | gct Ala | 576 |
| ctc Leu | atc lle | ctc Leu 195 | cta Leu | gcc Ala | aca Thr | G | l n | ctt Leu 200 | gt d Val | c 1 | tac Tyr | ctc Leu | aag Lys | ctg Leu 205 | ata He | t t t Phe | ttc Phe | 624 |
| gtc Val | cac His 210 | ga t Asp | cga Arg | aga Arg | aaa Lys | М | tg et 15 | aag Lys | cca Pro | a g | gtc Val | cag Gln | ttt Phe 220 | gta Val | gca Ala | gca Ala | gtc Val | 672 |
| agc Ser 225 | cag Gln | aac Asn | tgg Trp | act Thr | ttt Phe 230 | Н | a t i s | ggt Gly | cct Pro | t g | Зlу | gcc Ala 235 | agt Ser | ggc Gly | cag GIn | gca Ala | gct Ala 240 | 720 |
| gcc Ala | aa t As n | tgg Trp | cta Leu | gca Ala 245 | gga Gly | t P | t t he | gga Gly | agg Arg | 3 (| ggt Gly 250 | ccc Pro | aca Thr | cca Pro | ccc Pro | acc Thr 255 | ttg Leu | 768 |

| | | | | | 0/_24 | | | |
|---|---------------------------|---------------------------|-----------------------|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------|
| ctg ggc atc Leu Gly lle | agg caa Arg Glr 260 | a aat gc | a aac a Asn | acc ac Thr Th 265 | a ggc a r Gly A | rg Arg | agg cta Arg Leu 270 | ttg 816 Leu |
| gtc tta gac Val Leu Asp · 275 | Glu Phe | aaa atg Lys Mei | g gag Glu 280 | aaa ag Lys Ar | a atc ap g lle Se | gc aga er Arg (285 | atg ttc Met Phe | tat 864 Tyr |
| ata atg act lle Met Thr 290 | ttt ctg Phe Leu | ttt cta Phe Leu 295 | Thr | ttg tg Leu Tr | g ggc co p Gly Pr 30 | ro Tyr I | ctg gtg Leu Val | gcc 912 Ala |
| tgt tat tgg Cys Tyr Trp 305 | aga gtt Arg Val | ttt gca Phe Ala 310 | aga Arg | ggg cc Gly Pr | t gta gt o Val Va 315 | a cca g il Pro (| ggg gga Gly Gly | ttt 960 Phe 320 |
| cta aca gct Leu Thr Ala | gct gtc Ala Val 325 | Trp Met | agt Ser l | ttt gc Phe Al: 330 | a GIn Al | a gga a a Gly I | atc aat le Asn 335 | cct 1008 Pro |
| ttt gtc tgc Phe Val Cys | att ttc Ile Phe 340 | tca aac Ser Asn | Arg (| gag cti Glu Lei 345 | g agg cg u Arg Ar | g Cys P | tc agc The Ser 150 | aca 1056 Thr |
| acc ctt ctt Thr Leu Leu 355 | tac tgc Tyr Cys | aga aaa Arg Lys | tcc a Ser A 360 | agg tta Arg Lei | icca ag Pro Ar | g gaa c g Glu P 365 | ct tac Pro Tyr | tgt 1104 Cys |
| gtt ata tga Val lle 370 | | | | | | | | 1113 |
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| <400> 4 Met Ala Asn 1 | Tyr Ser 5 | His Ala | Ala A | sp Asn 10 | lle Lei | ų Gln A | sn Leu 15 | Ser |
| Pro Leu Thr | Ala Phe 20 | Leu Lys | | hr Ser 25 | Leu Gly | | le lle 1 30 | Gly - |
| Val Ser Val 35 | Val Gly | Asn Leu | Leu I 40 | le Ser | lle Leu | Leu V 45 | al Lys . | Asp |
| Lys Thr Leu 50 | His Arg | Ala Pro 55 | Tyr T | yr Phe | Leu Leu 6(| | eu Cys (| Cy s |
| Ser Asp 11e 65 | Leu Arg | Ser Ala | lle C | ys Phe | Pro Phe 75 | e Val Pi | he Asn | Ser 80 |
| Val Lys Asn | Gly Ser 85 | Thr Trp | Thr T | yr Gly 90 | Thr Lei | Thr C | ys Lys ' 95 | Val |

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| | | | | | - 1 | 1 | į | | | | | • | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|------------|-------------|------------|------------|------------|------------|--------------|------------|------------|------------|
| lie | Ala | Phe | Leu 100 | Gly | ۷a | J | Leu | Ser | Cys 105 | | His | Thr | Ala | 110 | | Leu |
| Phe | Cys | 11e 115 | | Val | Th | r | Arg | Tyr 120 | | Ala | lle | Ala | His 125 | | Arg | Phe |
| Tyr | Thr 130 | Lys | Arg | Leu | Th | | Phe 135 | | Thr | Cys | Leu | Ala 140 | | He | Cys | Met |
| Va I 145 | Trp | Thr | Leu | Ser | Va 150 | | Ala | Met | Ala | Phe | Pro 155 | Pro | Val | Leu | Asp | Val 160 |
| Gly | Thr | Tyr | Ser | Phe 165 | 116 | 2 | Arg | Glu | Glu | Asp 170 | | Cys | Thr | Phe | GIn 175 | His |
| Arg | Ser | Phe | Arg 180 | Ala | Ası | 1 | Asp | Ser | Leu 185 | Gly | Phe | Me t | Leu | Leu 190 | Leu | Ala |
| Leu | ile | Leu 195 | Leu | Ala | Thi | . (| In | Leu 200 | Vai | Tyr | Leu | Lys | Leu 205 | lle | Phe | Phe |
| Val | His 210 | Asp | Arg | Arg | Lys | | le t | Lys | Pro | Val | Gin | Phe 220 | Val | Ala | Ala | Val |
| Ser 225 | Gin | Asn | Trp | Thr | Phe 230 | | lis | Gly | Pro | Gly | Ala 235 | Ser | Gly | Gin | Ala | Ala 240 |
| Ala | Asn | Trp | Leu | Ala 245 | Gly | - | he | Gly | Arg | Gly 250 | Pro | Thr | Pro | Pro | Thr 255 | Leu |
| Leu | Gly | lle | Arg 260 | GIn | Asn | A | la | Asn | Thr 265 | Thr | Gly | Arg | Arg | Arg 270 | Leu | Leu |
| Vai | Leu | Asp 275 | Glu | Phe | Lys | N | | Gi u 280 | Lys | Arg | lle | Ser | Arg 285 | Me t | Phe | Tyr |
| | Me t 290 | Thr | Phe | Leu | Phe | 2 | eu 95 | Thr | Leu | Trp | Gly | Pro 300 | Tyr | Leu | Val | Ala |
| Cys 305 | Tyr | Trp | Arg | Va! | Phe 310 | | la | Arg | Gly | Pro | Val 315 | Vai | Pro | Gly | Gly | Phe 320 |
| Leu | Thr | Ala | Ala | Vai 325 | Trp | M | e t | Ser | Phe | A1a 330 | GIn | Ala | Gly | lle | Asn 335 | Pro |
| Phe | Vai | Cys | 11e 340 | Phe | Ser | | sn | | Glu 345 | Leu | Arg | Arg | Cys | Phe 350 | Ser | Thr |
| Thr | | Leu 355 | Tyr | Cys | Arg | Ļ | | Ser 360 | Arg | Leu | Pro | Arg | G I u 365 | Pro | Tyr | Cys |
| | 11e 370 | | | | | | | | | | | | | | | |

| <210> 5 <211> 1122 <212> DNA | 8/24 | |
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| cca ccg tcc gca tca gct Pro Pro Ser Ala Ser Ala 20 | t tat gtg aag ctg gta ctg ctg gga ctg att a Tyr Val Lys Leu Val Leu Leu Gly Leu lle 25 | 96 |
| atg tgc gtg agc ctg gcg Met Cys Val Ser Leu Ala 35 | g ggt aac gcc atc ttg tcc ctg ctg gtg ctc a Gly Asn Ala Ile Leu Ser Leu Leu Val Leu 40 45 | 144 |
| aag gag cgt gcc ctg cac Lys Glu Arg Ala Leu His 50 | aag got oot tac tac tto otg otg gac otg Lys Ala Pro Tyr Tyr Phe Leu Leu Asp Leu 55 60 | 192 |
| tgc ctg gcc gat ggc ata Cys Leu Ala Asp Gly IIe 65 70 | cgc tct gcc gtc tgc ttc ccc ttt gtg ctg Arg Ser Ala Val Cys Phe Pro Phe Val Leu 75 80 | 240 |
| gct tct gtg cgc cac ggc Ala Ser Val Arg His Gly 85 | tct tca tgg acc ttc agt gca ctc agc tgc Ser Ser Trp Thr Phe Ser Ala Leu Ser Cys 90 95 | 288 |
| aag att gtg gcc ttt atg Lys lle Val Ala Phe Met 100 | gcc gtg ctc ttt tgc ttc cat gcg gcc ttc 3 Ala Val Leu Phe Cys Phe His Ala Ala Phe 105 110 | 336 |
| atg ctg ttc tgc atc agc Met Leu Phe Cys lle Sen 115 | gtc acc cgc tac atg gcc atc gcc cac cac 3 Val Thr Arg Tyr Met Ala lle Ala His His 120 | 184 |
| cgc ttc tac gcc aag cgc Arg Phe Tyr Ala Lys Arg 130 | altg aca ctc tgg aca tgc gcg gct gtc atc 4 Met Thr Leu Trp Thr Cys Ala Ala Val IIe 1.35 140 | 32 |
| tgc atg gcc tgg acc ctg Cys Met Ala Trp Thr Leu 145 150 | tct gtg gcc atg gcc ttc cca cct gtc ttt 4 Ser Val Ala Met Ala Phe Pro Pro Val Phe 155 160 | 80 |
| gac gtg ggc acc tac aag Asp Val Gly Thr Tyr Lys 165 | ttt att cgg gag gag gac cag tgc atc ttt 5 Phe lle Arg Glu Glu Asp Gln Cys lle Phe 170 175 | 28 |
| gag cat cgc tac ttc aag | gcc aat gac acg ctg ggc ttc atg ctt atg 5 | 76 |

| | | | | | 1 | | | | | | 97 | 24 | | | | | |
|----------------------------------|---------------------|-------------------|-------------------|-------------------|----------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|-------------------|-------------------|------|
| Glu | ı His | Arį | 8 Tyr 180 | r Pho | e L | y s | Ala | ı Asr | 185 185 | Thi | r Leu | Gly | Phe | Met 190 | | Met | |
| ttg Leu | gct Ala | gtg Val 195 | Leu | atı J Me | g g | ca la | gc t Ala | acc Thr 200 | His | get Ala | t gtc i Val | tac Tyr | ggc Gly 205 | Lys | ctg Leu | ctc Leu | 624 |
| ctc Leu | ttc Phe 210 | ga g Glu | g tat ı Tyr | cgt Arg | c H | a c i s | cgc Arg 215 | Lys | atg Met | aag Lys | cca Pro | gtg Val 220 | Gln | atg Met | gtg Val | cca Pro | 672 |
| gcc Ala 225 | atc | agc Ser | cag Gln | aac Asn | ιŢį | gg p | Thr | ttc Phe | cat His | ggt Gly | ccc Pro 235 | ggg Gly | gcc Ala | acc Thr | ggc Gly | cag Gln 240 | 720 |
| Ala | Ala | Ala | Asn | Trp 245 | | е | Ala | Gly | Phe | Gly 250 | cgt Arg | Gly | Pro | Met | Pro 255 | Pro | 768 |
| acc Thr | ctg Leu | ctg Leu | ggt Gly 260 | atc lle | C 8 | g g | cag GIn | aat Asn | ggg Gly 265 | cat His | gca Ala | gcc Ala | agc Ser | cgg Arg 270 | cgg Arg | cta Leu | 816 |
| ctg Leu | ggc Gly | atg Met 275 | gac Asp | gag Glu | g t V a | c I | aag Lys | ggt Gly 280 | gaa Glu | aag Lys | cag Gln | ctg Leu | ggc Gly 285 | cgc Arg | atg Met | ttc Phe | 864 |
| tac Tyr | gcg Ala 290 | atc lle | aca Thr | ctg Leu | c t Le | ນ | ttt Phe 295 | ctg Leu | ctc Leu | ctc Leu | tgg Trp | tca Ser 300 | ccc Pro | tac Tyr | atc lle | gtg Val | 912 |
| gcc Ala 305 | tgc Cys | tac Tyr | tgg Trp | cga Arg | gt Va 31 | ֓֞֞֞֓֞֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֓֡֓֓֡ | ttt Phe | gtg Val | aaa Lys | gcc Ala | tgt Cys 315 | gct Ala | gtg Val | ccc Pro | His | cgc Arg 320 | 960 |
| tac Tyr | ctg Leu | gcc Ala | act Thr | gct Ala 325 | g t V a | | tgg Trp | atg Met | agc Ser | ttc Phe 330 | gcc Ala | cag GIn | gct Ala | Ala | gtc Val 335 | aac Asn | 1008 |
| cca Pro | att He | gtc Val | tgc Cys 340 | ttc Phe | ct; Lei | 8 | ctc | Asn | aag Lys 345 | gac Asp | ctc Leu | aag Lys | Lys | tgc Cys 350 | ctg Leu | agg Arg | 1056 |
| act Thr I | HIS. | gcc Ala 355 | ccc Pro | tgc Cys | tgg Trp | 3 (| ۱۶ | aca Thr 360 | gga Gly | ggt Gly | gcc Ala | Pro . | gct Ala 365 | ccc : Pro <i>i</i> | aga Arg | gaa Glu | 1104 |
| ccc Pro | tac Tyr (370 | tgt Cys | gtc Val | atg Met | tga | | | | | | | | | | | | 1122 |
| <210) <211) <212) <213) | > 37: > PR | Γ | apie | ns | | | | | | | | | | | | | |

1.0/24

<400> 6 Met Ala Asn Thr Thr Gly Glu Pro Glu Glu Val Ser Gly Ala Leu Ser Pro Pro Ser Ala Ser Ala Tyr Val Lys Leu Val Leu Leu Gly Leu lle 25 Met Cys Val Ser Leu Ala Gly Asn Ala IIe Leu Ser Leu Leu Val Leu Lys Glu Arg Ala Leu His Lys Ala Pro Tyr Tyr Phe Leu Leu Asp Leu Cys Leu Ala Asp Gly I e Arg Ser Ala Val Cys Phe Pro Phe Val Leu Ala Ser Val Arg His Gy Ser Ser Trp Thr Phe Ser Ala Leu Ser Cys 90 Lys lle Val Ala Phe Met Ala Val Leu Phe Cys Phe His Ala Ala Phe 105 110 Met Leu Phe Cys lle Ser Val Thr Arg Tyr Met Ala lle Ala His His Arg Phe Tyr Ala Lys Afg Met Thr Leu Trp Thr Cys Ala Ala Val Ile Cys Met Ala Trp Thr Leu Ser Val Ala Met Ala Phe Pro Pro Val Phe 150 Asp Val Gly Thr Tyr Lys Phe lle Arg Glu Glu Asp Gln Cys lle Phe 170 Glu His Arg Tyr Phe Lys Ala Asn Asp Thr Leu Gly Phe Met Leu Met 180 185 Leu Ala Val Leu Met Ala Ala Thr His Ala Val Tyr Gly Lys Leu Leu Leu Phe Glu Tyr Arg His Arg Lys Met Lys Pro Val Gln Met Val Pro Ala lle Ser Gln Asn Trp Thr Phe His Gly Pro Gly Ala Thr Gly Gln 225 230 Ala Ala Ala Asn Trp IIe Ala Gly Phe Gly Arg Gly Pro Met Pro Pro 245 250 Thr Leu Leu Gly lle Arg Gln Asn Gly His Ala Ala Ser Arg Arg Leu 265 Leu Gly Met Asp Glu Vall Lys Gly Glu Lys Gln Leu Gly Arg Met Phe

280

275



Tyr Ala lle Thr Leu Leu Phe Leu Leu Leu Trp Ser Pro Tyr lle Val 290 295 300

Ala Cys Tyr Trp Arg Val Phe Val Lys Ala Cys Ala Val Pro His Arg 305 310 315 320

Tyr Leu Ala Thr Ala Val Trp Met Ser Phe Ala Gln Ala Ala Val Asn 325 | 330 335

Pro 11e Val Cys Phe Leu Leu Asn Lys Asp Leu Lys Lys Cys Leu Arg 340 345 350

Thr His Ala Pro Cys Trp Gly Thr Gly Gly Ala Pro Ala Pro Arg Glu 355 360 365

Pro Tyr Cys Val Met 370

<210> 7 <211> 31 <212> DNA

<213> Artificial Sequence

(220)

(223) Description of Artificial Sequence: Forward primer

<400> 7

aaaatctaga cgcgatggcg aacgcgagcg a

31

<210> 8

(211) 31

<212> DNA

<213> Artificial Sequençe

(220)

(223) Description of Artificial Sequence: reverse primer

<400> 8

aaaatctaga gtctatgtgg cggggcctcc c

31

⟨210⟩ 9

<211> 34

<212> DNA

<213> Artificial Sequence

(220)

<223> Description of Artificial Sequence: Forward primer

<400> 9

aaaatctaga tctatggcga actatagcca tgca

34

<210> 10

| | | l i | • | |
|--------------------------------|------------------------|-----|---------------------------------|-----|
| <211> <212> <213> | | ne | e | |
| <220> <223> | | rt | ificial Sequence:reverse primer | |
| <400> aaaa t | 10 ctaga aaggctaaag | a t | ttacagat gctcc | 3 5 |
| <210><211><211><212><213> | 33 | nc | e | |
| <220> <223> | Description of A | r t | ificial Sequence:Forward primer | |
| <400> aaaa t c | 11 taga gtatggccaa | сa | ctaccgga gag | 3 3 |
| <210><211><211><212><213> | 31 | nc | ee | |
| <220> <223> | Description of A | rt | ificial Sequence:reverse primer | |
| <400> aaaatc | 12 taga cctgtctgcc | а | ccagcctg c | 31 |
| <210><211><211><211><212><213> | 36 | ı c | | |
| <220> <223> | Description of A | t | ficial Sequence:FLAG epitope | |
| <400> atggac | 13 taca aggacgacga | g | acaagggg atcctg | 36 |
| <210><211><211><211><212><213> | 12 |) C | | |
| <220> <223> | Description of A | t | ficial Sequence:FLAG epitope | |
| 〈400〉 | 14 | | | |

Met Asp Tyr Lys Asp Asp Asp Lys Gly IIe Leu

1 10

<210> 15

(211) 32

<212> DNA

<213> Artificial Sequençe

(220)

(223) Description of Artificial Sequence: Forward primer

<400> 15

aaaatctaga cggcgatggc gaacgctagt ga

32

⟨210⟩ 16

<211> 33

<212> DNA

<213> Artificial Sequençe

(220)

<223> Description of Artificial Sequence:reverse primer

<400> 16

aaaatctaga cactttgaga gtcttgtgaa ggc

33

⟨210⟩ 17

<211> 33

<212> DNA

(213) Artificial Sequence

(220)

<223> Description of Artificial Sequence: Forward primer

<400> 17

aaaatctaga tctatggcga actatagcca tgc

33

⟨210⟩ 18

<211> 35

<212> DNA

<213> Artificial Sequence

(220)

(223) Description of Artificial Sequence: Forward primer

<400> 18

aaaatctaga aaggctaaag at tacagat gctcc

35

<210> 19

(211) 34

<212> DNA

<213> Artificial Sequence

| /222\ Dasarinkian of Anificial Communication | |
|---|------|
| (223) Description of Artificial Sequence:reverse primer | |
| <400> 19 | |
| aaaatctaga caaatactga actggccgat cccc | 34 |
| (210) 20 | |
| <210> 20 <211> 34 | |
| <212> DNA | |
| <213> Artificial Sequençe | |
| ⟨220⟩ | |
| (223) Description of Artificial Sequence: reverse primer | |
| <400> 20 | |
| aaaatctaga tgttggcccc agtatggtga tcat | 34 |
| | |
| <210> 21 | |
| (211) 1134 | |
| <212> DNA <213> Rattus sp. | |
| ZIS RACCUS Sp. | |
| ⟨220⟩ | |
| <221> CDS | |
| <222> (1) (1131) <223> Rat SREB1 | |
| | |
| <400> 21 | |
| atg gog aac got agt gap cog ggo ggo ggo ggo ggo ggo gag goo Met Ala Asn Ala Ser Gly Pro Gly Gly Gly Gly Gly Ala Glu Al. | t 48 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 1 |
| | |
| gcc gcg ctg ggc ctc agg ctg gcc aca ctc agc ctg ctg ctg tgc gt Ala Ala Leu Gly Leu Arg Leu Ala Thr Leu Ser Leu Leu Leu Cys Va | g 96 |
| 20 25 30 | Į. |
| | |
| age etg geg gge aae gtg etg tte get etg ete ate gtg agg gag eg Ser Leu Ala Gly Asn Val Leu Phe Ala Leu Leu IIe Val Arg Glu Arg | 144 |
| Ser Leu Ala Gly Asn Val Leu Phe Ala Leu Leu IIe Val Arg Glu Arg 35 40 45 | 3 |
| | |
| age ctg cac ege geg ect tac tac etg etg etc gae etg tge etg ge | |
| Ser Leu His Arg Ala Pro Tyr Tyr Leu Leu Leu Asp Leu Cys Leu Ala 50 60 | 1 |
| | |
| gac ggg ctg cgc gcg ctc gcc tgt ctc ccg gcc gtc atg ctg gct gc | 240 |
| Asp Gly Leu Arg Ala Leu Àla Cys Leu Pro Ala Val Met Leu Ala Ala 65 76 86 | |
| 65 70 75 80 | , |
| cgg cgc gcg gca gcc gcg gcg ggg acg cct ccg ggt gcg ctg ggc tgc | 288 |
| Arg Arg Ala Ala Ala Ala Ala Gly Thr Pro Pro Gly Ala Leu Gly Cys | ; |
| 85 90 95 | |
| aag ctg ctg gcc ttc ctg gcc gcg ctc ttc tgc ttc cac gcg gcc ttc | 336 |

| | | | | | | - 1 | ļ | | | | | | | , | 7 | | | | | |
|-----------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-----------|-------------------|-------------------|--------|-------------------|-------------------|----------------|------------------|-------------------|-------------------|----------------|-------------------|-------------------|---------------------|------|
| Lys | Leu | J Lei | ۱۱۵ د ۱۵۱ | a Pho O | e Le | Ų | Ala | a Al | а | Le: | | 1e | Cys | s Ph | ie H | is | A1. | _ | a Phe | |
| ctg Leu | ctg Leu | ctg Leu 115 | ıGly | c gtg y Val | g gg I GI | y | gto Val | Th | r | cg(Arg | ta Ty | r | ctg Leu | g gc ı Al | a l | tc le 25 | gc Ala | t ca a Hi | c cac s His | 384 |
| cgc Arg | ttc Phe 130 | Tyr | gco | gag Glu | cg Ar | 3 | t g e u 135 | ΑI | c a | ggc Gly | tg Tr | g (| ccg Pro | tg Cy 14 | s Al | c a | gcg Ala | g at Me | g ctg t Leu | 432 |
| gtg Val 145 | tgc Cys | gcc Ala | gcc Ala | tgg Trp | gca Ala 150 | Ļ | t g e u | gc Al: | t a | ttg Leu | gc Al | a A | gcg Na 155 | gc Ala | c tt a Ph | c | ccg Pro | cc; Pro | g gtg Val 160 | 480 |
| ctg Leu | gac Asp | ggc Gly | ggt Gly | ggc Gly 165 | Ala | 8 | ac sp | ga (Asp | C ; | gag Glu | ga Asi 170 | D A | gcg | c c į Pro | g tg o Cy | c s | gcc Ala | cts Lei 175 | g gag ı Glu | 528 |
| cag GIn | cgg Arg | ccc Pro | gac Asp 180 | ggc Gly | gcc Ala | P | cg | ggt | / / | gcg Ala 185 | c t : Le i | ag JG | gc ly | t t d Phe | ct Le | u l | ctg Leu 190 | c t d Leu | ctg Leu | 576 |
| gcc Ala | gcg Ala | gtg Val 195 | gtg Val | ggc Gly | gcc Ala | a | cg hr | cac His 200 | : 1 | ctc _eu | gto Val | t T | ac yr | ctt Leu | cg Ar 20 | g l | tg .eu | c t c Leu | ttc Phe | 624 |
| ttc Phe | atc He 210 | cac His | gac Asp | cgc Arg | cgc Arg | L | ag ys 15 | atg Met | , C | gg | c c c Pro | g A | ca la | cgc Arg 220 | Lei | ı / | gtg /al | ccc Pro | gcc Ala | 672 |
| gtc Val 225 | agc Ser | cac His | gac Asp | tgg Trp | acc Thr 230 | t P | t c he | cac His | g G | gc | ccg Pro | G | gc Iy 35 | gcc Ala | a c c | C G | gt | caa Gln | gcg Ala 240 | 720 |
| gcc g Ala A | gcc Ala | aac Asn | tgg Trp | acg Thr 245 | gcg Ala | g G | g c | ttc Phe | g G | lу | cgc Arg 250 | g g | gg ly | ccc Pro | acg Thr | c P | ca ro | cct Pro 255 | gcg Ala | 768 |
| ctc g Leu \ | gtg : /al (| Gly | atc lle 260 | agg Arg | cct Pro | g A | a | ggc Gly | Ρ | cg ro 65 | ggc Gly | c g A r | gc | gga Gly | gc c Ala | A | gg rg 70 | cgc Arg | ctc Leu | 816 |
| ctg g Leu V | al l | ctg Leu 275 | gag Glu | gaa Glu | ttc Phe | a a | S | acg Thr 280 | g G | ag lu | aag Lys | a g A r | g | ctg Leu | tgc Cys 285 | L | ag ys | atg Met | ttc Phe | 864 |
| tac g Tyr A 2 | cc a la 1 90 | atc . He | acg Thr | ctg Leu | Leu | t t Pr | ie I | ctg Leu | c L | t c eu | ctc Leu | tg Tr | p (| ggg Gly 300 | ccc Pro | t T | a t y r | gtg Val | gtt Val | 912 |
| gcc a Ala S 305 | gt i er 1 | tac (ſyr l | ctg Leu . | Arg ' | gtc Val 310 | c t Le | n / | gtg /al | C: | gg rg | ccc Pro | gg G1 31 | y / | gct Ala | gtc Val | c P | cg ro | cag Gln | gcc Ala 320 | 960 |
| tac c | tg a | ica į | g¢c | tcg | gtg | tg | g | tg | a | c a | ttc | gc | a c | ag | gcc | gį | gc | atc | aac | 1008 |

Tyr Leu Thr Ala Ser Vil Trp Leu Thr Phe Ala Gin Ala Gly ile Asn 325 330 335

Pro Val Val Cys Phe Leu Phe Asn Arg Glu Leu Arg Asp Cys Phe Arg

gcc cag ttc ccc tgt tgc cag agc ccc cag gcc acg cag gcc acc ctc 1104 Ala Gln Phe Pro Cys Cys Gln Ser Pro Gln Ala Thr Gln Ala Thr Leu 355 360 365

ccc tgc gac ctg aaa ggc att ggt ttg tga Pro Cys Asp Leu Lys Gly lle Gly Leu 370

1134

<210> 22 <211> 377 <212> PRT <213> Rattus sp.

<400> 22

Met Ala Asn Ala Ser Glu Pro Gly Gly Gly Gly Gly Gly Ala Glu Ala 1 5 10 15

Ala Ala Leu Gly Leu Arg Leu Ala Thr Leu Ser Leu Leu Leu Cys Val 20 25 30

Ser Leu Ala Gly Asn Val Leu Phe Ala Leu Leu lle Val Arg Glu Arg 35 40 45

Ser Leu His Arg Ala Pro Tyr Tyr Leu Leu Leu Asp Leu Cys Leu Ala 50 55 60

Asp Gly Leu Arg Ala Leu Ala Cys Leu Pro Ala Val Met Leu Ala Ala 65 70 80

Arg Arg Ala Ala Ala Ala Gly Thr Pro Pro Gly Ala Leu Gly Cys 85 90 95

Lys Leu Leu Ala Phe Leu Ala Ala Leu Phe Cys Phe His Ala Ala Phe 100 105 110

Leu Leu Cly Val Gly Val Thr Arg Tyr Leu Ala Ile Ala His His 115 120 125

Arg Phe Tyr Ala Glu Arg Leu Ala Gly Trp Pro Cys Ala Ala Met Leu 130 135 140

Val Cys Ala Ala Trp Ala Leu Ala Leu Ala Ala Ala Phe Pro Pro Val 145 150 155 160

Leu Asp Gly Gly Gly Ala Asp Asp Glu Asp Ala Pro Cys Ala Leu Glu 165 170 175

Gin Arg Pro Asp Gly Ala Pro Gly Ala Leu Gly Phe Leu Leu Leu Leu

180

185

190

Ala Ala Val Val Gly Ala Thr His Leu Val Tyr Leu Arg Leu Leu Phe 195 200 205

Phe IIe His Asp Arg Arg Lys Met Arg Pro Ala Arg Leu Val Pro Ala 210 215 220

Val Ser His Asp Trp The Phe His Gly Pro Gly Ala Thr Gly Gln Ala 225 230 235 240

Ala Ala Asn Trp Thr Ala Gly Phe Gly Arg Gly Pro Thr Pro Pro Ala
245 250 255

Leu Val Gly Ile Arg Pro Ala Gly Pro Gly Arg Gly Ala Arg Arg Leu 260 265 270

Leu Val Leu Glu Glu Phe Lys Thr Glu Lys Arg Leu Cys Lys Met Phe 275 280 285

Tyr Ala lle Thr Leu Leu Phe Leu Leu Leu Trp Gly Pro Tyr Val Val 290 295 300

Ala Ser Tyr Leu Arg Vall Leu Val Arg Pro Gly Ala Val Pro Gln Ala 305 310 320

Tyr Leu Thr Ala Ser Val Trp Leu Thr Phe Ala Gln Ala Gly lle Asn 325 330 335

Pro Val Val Cys Phe Leu Phe Asn Arg Glu Leu Arg Asp Cys Phe Arg 340 345 350

Ala Gin Phe Pro Cys Cys Gin Ser Pro Gin Ala Thr Gin Ala Thr Leu 355 360 365

Pro Cys Asp Leu Lys Gly I e Gly Leu 370 375

<210> 23

(211) 1113

<212> DNA

(213) Rattus sp.

(220)

<221> CDS

<222> (1)..(1110)

<223> Rat SREB2

<400> 23

atg gcg aac tat agc cat gca gct gac aac att ttg caa aat ctc tcg Met Ala Asn Tyr Ser His Ala Ala Asp Asn Ile Leu Gln Asn Leu Ser 1 5 10 15

cct cta aca gcc ttt ctg aaa ctg act tcc ttg ggt ttc ata ata gga Pro Leu Thr Ala Phe Leu Lys Leu Thr Ser Leu Gly Phe lle lle Gly

20

25

30

| | _ | | | 20 | | 30 | |
|-------------------------------|---------------------------|-------------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|-----------------------------|
| gtc agt Val Ser | gtg gt Val Va 35 | g ggc aac I Gly Asn | ctt ctg Leu Leu 40 | lle Ser | att ttg Leu | cta gtg aa Leu Val Ly: 45 | a gat 144 s Asp |
| aag acc Lys Thr 50 | ttg ca Leu His | t aga gct s Arg Ala | cct tac Pro Tyr 55 | tac ttc Tyr Phe | ctg ctg g Leu Leu A 60 | gat ctg tgo ssp Leu Cys | c tgc 192 s Cys |
| tca gac Ser Asp 65 | atc cto | aga tet Arg Ser 70 | gca att Ala lle | tgt ttt Cys Phe | cca ttt g Pro Phe V 75 | ta ttc aac al Phe Asn | tct 240 Ser 80 |
| gtc aaa Val Lys | aat ggd Asn Gly | tct acc Ser Thr 85 | tgg act Trp Thr | tac ggg Tyr Gly 90 | act ctg a Thr Leu T | ct tgc aaa hr Cys Lys 95 | Va I |
| att gcc lle Ala | ttt ctg Phe Leu 100 | Gly Vali | ttg tcc Leu Ser | tgt ttc Cys Phe 105 | cac act g His Thr A | cc ttc atg la Phe Met 110 | ctc 336 Leu |
| Phe Cys | atc agc lle Ser 115 | gtc acc Val Thr | aga tac Arg Tyr 120 | tta gcc Leu Ala | atc gcc ca lle Ala H | at cac cgc is His Arg 25 | ttc 384 Phe |
| tat aca Tyr Thr 130 | aag agg Lys Arg | Leu Thr | ttt tgg Phe Trp 135 | acg tgt Thr Cys | ttg gct gt Leu Ala Va 140 | tg atc tgc il lle Cys | atg 432 Met |
| gtg tgg a Val Trp 145 | act ctg Thr Leu | tct gtg Ser Val 150 | scc atg | Ala Phe | ccc cca gt Pro Pro Va 155 | t tta gat I Leu Asp | gta 480 Val 160 |
| ggc acc i Gly Thr 1 | tac tca Tyr Ser | ttc att a Phe IIe A 165 | gg gag rg Glu | gag gat Glu Asp (170 | cag tgt ac Gin Cys Th | c ttc caa r Phe Gin 175 | cac 528 His |
| cgc tcc t Arg Ser F | ttc agg Phe Arg 180 | gct aad g Ala Asn A | sp Ser i | cta gga Leu Gly ! 185 | ttt atg ct Phe Met Le | g ctc ctt u Leu Leu 190 | gct 576 Ala |
| Leu IIe L | tc cta eu Leu 95 | gcc aca c Ala Thr G | ag ctt In Leu 200 | gtc tac o Val Tyr L | ctc aag ct _eu Lys Le 20 | g ata ttt u lle Phe 5 | ttt 624 ⁻ Phe |
| gtc cac g Val His A 210 | at cga sp Arg | Arg Lys M | tg aag d et Lys F 15 | cca gtc c Pro Val C | cag ttt gt Gin Phe Va 220 | a gca gca I Ala Ala | gtg 672 Val |
| agt cag a Ser GIn A 225 | ac tgg sn Trp | acc ttt c Thr Phe H 230 | at ggc o is Gly F | ro Gly A | gct agt gg Na Ser Gi | c cag gca y Gln Ala | gct 720 Ala 240 |
| gcc aat t Ala Asn T | gg cta rp Leu | gca gga t Ala Gly P | tt gga a he Gly A | igg ggt c irg Gly P | cc aca cc ro Thr Pro | a ccc acc Pro Thr | ttg 768 Leu |

| | 19/24 | | | | | | | | | | |
|---|---|--|--|--|--|--|--|--|--|--|--|
| 245 | 250 | 255 | | | | | | | | | |
| ctg ggc atc agg caa aat Leu Gly lle Arg Gln Asn 260 | gcg aat acc aca ggc aga aga Ala Asn Thr Thr Gly Arg Arg 265 | cgg ctc ttg 816 Arg Leu Leu 270 | | | | | | | | | |
| gtt ttg gat gag ttc aaa Val Leu Asp Glu Phe Lys 275 | atg gag aaa aga atc agc aga Met Glu Lys Arg IIe Ser Arg 280 285 | atg ttc tat 864 Met Phe Tyr | | | | | | | | | |
| ata atg act ttc ctc ttc lle Met Thr Phe Leu Phe 290 | cta acc ttg tgg ggt ccc tac Leu Thr Leu Trp Gly Pro Tyr 295 300 | ctg gtg gcc 912 Leu Val Ala | | | | | | | | | |
| tgc tat tgg aga gtt ttt Cys Tyr Trp Arg Val Phe 305 310 | gca aga ggg cct gta gta cca Ala Arg Gly Pro Val Val Pro 315 | ggg gga ttt 960 Gly Gly Phe 320 | | | | | | | | | |
| cta aca gcc gct gtc tgg Leu Thr Ala Ala Val Tro 325 | atg agt ttc gcc caa gca gga Met Ser Phe Ala Gln Ala Gly 330 | atc aat ccc 1008 lle Asn Pro 335 | | | | | | | | | |
| ttt gtc tgc att ttc tcc Phe Val Cys IIe Phe Ser 340 | aac agg gag ctg agg cgc tgt Asn Arg Glu Leu Arg Arg Cys 345 | ttc agc aca 1056 Phe Ser Thr 350 | | | | | | | | | |
| acc ctt ctt tac tgc aga Thr Leu Leu Tyr Cys Arg 355 | aaa tcc agg tta cca agg gaa Lys Ser Arg Leu Pro Arg Glu 360 365 | cct tac tgt 1104 Pro Tyr Cys | | | | | | | | | |
| gtt ata tga Val IIe 370 | | 1113 | | | | | | | | | |
| <210> 24 <211> 370 <212> PRT <213> Rattus sp. | | | | | | | | | | | |
| <400> 24 Met Ala Asn Tyr Ser His 1 5 | Ala Ala Asp Asn lle Leu Gin A 10 | Asn Leu Ser 15 - | | | | | | | | | |
| Pro Leu Thr Ala Phe Leu 20 | ys Leu Thr Ser Leu Gly Phe 1 25 | lle lle Gly 30 | | | | | | | | | |
| Val Ser Val Val Gly Asn 35 | Leu Leu IIe Ser IIe Leu Leu V 40 45 | al Lys Asp | | | | | | | | | |
| Lys Thr Leu His Arg Ala 50 | ro Tyr Tyr Phe Leu Leu Asp L 55 60 | eu Cys Cys. | | | | | | | | | |

Ser Asp IIe Leu Arg Ser A a IIe Cys Phe Pro Phe Val Phe Asn Ser 75 80

Val Lys Asn Gly Ser Thr Trp Thr Tyr Gly Thr Leu Thr Cys Lys Val 85 90 95

Ille Ala Phe Leu Gly Vall Leu Ser Cys Phe His Thr Ala Phe Met Leu 100 105 110

Phe Cys lle Ser Val Thr Arg Tyr Leu Ala lle Ala His His Arg Phe 115 | 120 125

Tyr Thr Lys Arg Leu Thr Phe Trp Thr Cys Leu Ala Val IIe Cys Met 130 135 140

Val Trp Thr Leu Ser Val Ala Met Ala Phe Pro Pro Val Leu Asp Val 145 150 155 160

Gly Thr Tyr Ser Phe IIe Arg Glu Glu Asp Gln Cys Thr Phe Gln His 165 170 175

Arg Ser Phe Arg Ala Asn Asp Ser Leu Gly Phe Met Leu Leu Leu Ala 180 185 190

Leu lle Leu Leu Ala Thr Gin Leu Val Tyr Leu Lys Leu lle Phe Phe 195 200 205

Val His Asp Arg Arg Lys Met Lys Pro Val Gln Phe Val Ala Ala Val 210 215 220

Ser Gln Asn Trp Thr Phe His Gly Pro Gly Ala Ser Gly Gln Ala Ala 225 230 235 240

Ala Asn Trp Leu Ala Gly Phe Gly Arg Gly Pro Thr Pro Pro Thr Leu 245 250 255

Leu Gly lle Arg Gln Asn Ala Asn Thr Thr Gly Arg Arg Leu Leu 260 265 270

Val Leu Asp Glu Phe Lys Met Glu Lys Arg IIe Ser Arg Met Phe Tyr 275 280 285

lle Met Thr Phe Leu Phe Leu Thr Leu Trp Gly Pro Tyr Leu Val Ala 290 295 300

Cys Tyr Trp Arg Val Phe A a Arg Gly Pro Val Val Pro Gly Gly Phe 305 310 315 320

Leu Thr Ala Ala Val Trp Met Ser Phe Ala Gin Ala Gly Ile Asn Pro 325 330 335

Phe Val Cys lle Phe Ser Asn Arg Glu Leu Arg Arg Cys Phe Ser Thr 340 345 350

Thr Leu Leu Tyr Cys Arg Lys Ser Arg Leu Pro Arg Glu Pro Tyr Cys 355 360 365

Val lle 370

| <210> 25 <211> 1122 <212> DNA <213> Rat co | oronavirus | | | | | | | | | | | |
|---|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|-------------------|-----|
| <220> <221> CDS <222> (1) <223> Rat SF | | | | | | | | | | | | |
| <400> 25 atg gcc aac Met Ala Asn 1 | acc acc gg Thr Thr GI 5 | a gag y Glu | ccc Pro | gaa Glu | gag Glu 10 | Val | agc Ser | ggc Gly | gca Ala | ctg Leu 15 | Ser | 48 |
| ctg cca tca Leu Pro Ser | gca tcg gc Ala Ser Al 20 | t tat a Tyr | gtg Val | aag Lys 25 | ctg Leu | gtg Val | ctg Leu | ctg Leu | gga Gly 30 | ctg Leu | atc lle | 96 |
| atg tgt gta Met Cys Val 35 | agc ctg gca Ser Leu Ala | ggc Gly | aat Asn 40 | gcc Ala | atc lle | ttg Leu | tcc Ser | ctg Leu 45 | ctg Leu | gtg Val | ctc Leu | 144 |
| aag gag cgt Lys Glu Arg 50 | gcc ctg cad Ala Leu His | aag Lys 55 | gct Ala | cct Pro | tac Tyr | tac Tyr | ttt Phe 60 | ctg Leu | ctg Leu | gac Asp | ctg Leu | 192 |
| tgc cta gcc Cys Leu Ala 65 | gat ggc ata Asp Gly llé 70 | Arg | tct Ser | gcc Ala | atc He | tgc Cys 75 | ttc Phe | ccc Pro | ttt Phe | gta Val | ctg Leu 80 | 240 |
| gct tct gtg Ala Ser Val | cgc cat ggc Arg His Gly 85 | tcc Ser | tcg Ser | tgg Trp | acc Thr 90 | ttc Phe | agt Ser | gca Ala | ctc Leu | agc Ser 95 | tgt Cys | 288 |
| aag att gtg g Lys lle Val / | gcc ttt atg Ala Phe Met 100 | gct Ala | gtg Val | ctc Leu 105 | ttt Phe | tgc Cys | ttc Phe | cat His | gcg Ala 110 | gcc Ala | ttc Phe | 336 |
| atg ctg ttc t Met Leu Phe (115 | tgc atc agc Cys lle Ser | gtc Val | acc Thr 120 | cgc Arg | tac Tyr | atg Met | gcc Ala | atc He 125 | gcc Ala | cac His | cac His | 384 |
| cgc ttc tat g Arg Phe Tyr A 130 | gcc aag cgc Ala Lys Arg | atg Met 135 | aca Thr | ctc Leu | tgg Trp | a ca Thr | tgc Cys 140 | gca Ala | gct Ala | gtc Val | atc lle | 432 |
| tgc atg gcc t Cys Met Ala 7 145 | tgg acc ttg Trp Thr Leu 150 | Ser | gtg Val | gcc Ala | atg Met | gct Ala 155 | ttc Phe | cca Pro | cct Pro | gtc Val | ttt Phe 160 | 480 |
| gat gtg ggc a Asp Val Gly T | acc tac aag Thr Tyr Lys 165 | ttt Phe | atc lle | Arg | gag Glu 170 | gag Glu | ga c Asp | cag GIn | tgc Cys | atc He 175 | ttt. Phe | 528 |

| | | | | | | | ĺ | | | | | | | | | | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------|
| ga g Glu | cat His | cgc Arg | tac Tyr 180 | Phe | aa Ly | a S | gca Ala | aat Asn | gad Asp 185 | Thi | t ctg r Lei | g ggo i Gly | ttt Phe | atg Met 190 | Leu | atg Met | 576 |
| ttg Leu | gct | gtg Val 195 | c t c Leu | atg Met | gc Al | 1 | gcc Ala | aca Thr 200 | cat His | gct Ala | gtc Val | tat Tyr | ggc Gly 205 | aag Lys | ctg Leu | cta Leu | 624 |
| ctc Leu | ttc Phe 210 | Glu | tat Tyr | cgt Arg | cad Hi | , | cgc Arg 215 | aag Lys | atg Met | aag Lys | cca Pro | gtg Val 220 | Gln | atg Met | gtg Val | ccc Pro | 672 |
| gcc Ala 225 | atc lle | agc Ser | caa Gln | aac Asn | tgg Trg 230 | | aca Thr | ttc Phe | cat His | ggc Gly | cct Pro 235 | Gly | gct Ala | acc Thr | ggc Gly | cag Gln 240 | 720 |
| gct Ala | gct Ala | gcc Ala | aac Asn | tgg Trp 245 | ato | 1 | ct | ggc Gly | ttt Phe | ggc Gly 250 | cgt Arg | ggg Gly | ccc Pro | atg Met | cca Pro 255 | cca Pro | 768 |
| ac t Thr | ctg Leu | ctg Leu | ggt Gly 260 | atc He | cgg Arg | (| ag | aat Asn | ggg Gly 265 | cat His | gca Ala | gct Ala | agc Ser | cgg Arg 270 | cgg Arg | cta Leu | 816 |
| Leu | Gly | Me t 275 | Asp | Glu | Val | L | уs | Gly 280 | Glu | Lys | cag Gln | Leu | Gly 285 | Arg | Met | Phe | 864 |
| tac Tyr | gcg Ala 290 | att He | aca Thr | ctg Leu | ctc Leu | P | t c he 95 | ctg Leu | ctc Leu | ctc Leu | tgg Trp | tca Ser 300 | cca Pro | tac Tyr | att IIe | gtg Val | 912 |
| gcc Ala 305 | tgc Cys | tac Tyr | tgg Trp | cga Arg | gtg Val 310 | t P | t t he | gtg Val | aaa Lys | gcc Ala | tgc Cys 315 | gct Ala | gtg Val | ccc Pro | cac His | cgc Arg 320 | 960 |
| tac Tyr | ctg Leu | gcc Ala | Thr | gct Ala 325 | gtt Val | t T | gg rp | atg Met | agc Ser | ttc Phe 330 | gcc Ala | cag Gln | gct Ala | gc t Ala | gtc Val 335 | aac Asn | 1008 |
| cca Pro | atc lle | Val | tgc Cys 340 | ttc Phe | ctg Leu | c L | t t eu | Asn | aag Lys 345 | gac Asp | ctc Leu | aag Lys | aag Lys | tgc Cys 350 | ctg Leu | agg Arg | 1056_ |
| act Thr | His | gcc Ala 355 | cct Pro | tgc Cys | tgg Trp | g G | lу | aca Thr 360 | gga Gly | gg t Gly | gcc Ala | Pro | gct Ala 365 | ccc Pro | aga Arg | gaa Glu | 1104 |
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Met Cys Val Ser Leu Ala Gly Asn Ala IIe Leu Ser Leu Leu Val Leu 35 40 45

Lys Glu Arg Ala Leu His Lys Ala Pro Tyr Tyr Phe Leu Leu Asp Leu 50 55 60

Cys Leu Ala Asp Gly II e Arg Ser Ala IIe Cys Phe Pro Phe Val Leu 65 70 75 80

Ala Ser Val Arg His Gly Ser Ser Trp Thr Phe Ser Ala Leu Ser Cys 85 90 95

Lys lle Val Ala Phe Met Ala Val Leu Phe Cys Phe His Ala Ala Phe 100 105 110

Met Leu Phe Cys IIe Ser Val Thr Arg Tyr Met Ala IIe Ala His His 115 120 125

Arg Phe Tyr Ala Lys Arg Met Thr Leu Trp Thr Cys Ala Ala Val Ile 130 140

Cys Met Ala Trp Thr Lev Ser Val Ala Met Ala Phe Pro Pro Val Phe 145 150 155 160

Asp Val Gly Thr Tyr Lys Phe lle Arg Glu Glu Asp Gln Cys lle Phe 165 170 175

Glu His Arg Tyr Phe Lys Ala Asn Asp Thr Leu Gly Phe Met Leu Met 180 185 190

Leu Ala Val Leu Met Ala Ala Thr His Ala Val Tyr Gly Lys Leu Leu 195 200 205

Leu Phe Glu Tyr Arg His Arg Lys Met Lys Pro Val Gln Met Val Pro 210 2215 220

Ala lle Ser Gln Asn Trp Thr Phe His Gly Pro Gly Ala Thr Gly Gln 225 230 235 240

Ala Ala Ala Asn Trp lle Ala Gly Phe Gly Arg Gly Pro Met Pro Pro 245 250 255

Thr Leu Leu Gly lle Arg Gin Asn Gly His Ala Ala Ser Arg Arg Leu 260 265 270

Leu Gly Met Asp Glu Val Lys Gly Glu Lys Gln Leu Gly Arg Met Phe

275

24/24

280

285

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Ala Cys Tyr Trp Arg Val Phe Val Lys Ala Cys Ala Val Pro His Arg 315 310 320

Tyr Leu Ala Thr Ala Val Trp Met Ser Phe Ala Gin Ala Ala Val Asn 325 330 335

Pro 11e Val Cys Phe Leu Leu Asn Lys Asp Leu Lys Lys Cys Leu Arg 340 345 350

Thr His Ala Pro Cys Trp Gly Thr Gly Gly Ala Pro Ala Pro Arg Glu 355 360 365

Pro Tyr Cys Val Met 370

DOKTED DETEND